



Naval Education and
Training Command

NAVEDTRA 82419
May 1993
0503-LP-477-6600

Nonresident Training
Course (NRTC)

Electronics Technician

Volume 9—Electro-Optics

Only one answer sheet is included in the NRTC. Reproduce the required number of sheets you need or get answer sheets from your ESO or designated officer.

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ELECTRO-OPTICS

NAVEDTRA 82419

Prepared by the Naval Education and Training Program Management
Support Activity, Pensacola, Florida

Congratulations! By enrolling in this course, you have demonstrated a desire to improve yourself and the Navy. Remember, however, this self-study course is only one part of the total Navy training program. Practical experience, schools, selected reading, and your desire to succeed are also necessary to successfully round out a fully meaningful training program. You have taken an important step in self-improvement. Keep up the good work.

HOW TO COMPLETE THIS COURSE SUCCESSFULLY

ERRATA: If an errata comes with this course, make all indicated changes or corrections before you start the assignment. Do not change or correct the Training Manual (TRAMAN) or assignment in any other way.

TEXTBOOK ASSIGNMENTS: The TRAMAN for this course is *Electro-Optics*, NAVEDTRA 12419. The TRAMAN pages that you are to study are listed at the beginning of the assignment. Study these pages carefully before attempting to answer the questions in the course. Pay close attention to tables and illustrations because they contain information that will help you understand the text. Read the learning objectives provided at the beginning of each chapter or topic in the text and/or preceding the set of questions in the course. Learning objectives state what you should be able to do after studying the material. Answering the questions correctly helps you accomplish the objectives.

BLACK DOT INFORMATION: Black dots (●) may be used in the text and correspondence course to emphasize important or supplemental information and to highlight instructions for answering certain questions. Read these black dot entries carefully; they will help you answer the questions and understand the material.

SELECTING YOUR ANSWERS: After studying the TRAMAN, you should be ready to answer the questions in the assignment. Read each question carefully, then select the BEST answer. Be sure to select your answer from the subject matter in the TRAMAN. You may refer freely to the TRAMAN and seek advice

and information from others on problems that may arise in the course. However, the answers must be the result of your own work and decisions. You are prohibited from referring to or copying the answers of others and from giving answers to anyone else taking the same course. Failure to follow these rules can result in suspension from the course and disciplinary action.

SUBMITTING COMPLETED ANSWER SHEETS:

Complete the assignment as quickly as possible to derive maximum benefit from the course. Submit the assignment for grading as soon as you have completed it, or within one month of receiving the course. This is a requirement established by the Chief of Naval Education and Training. Failure to meet this requirement could result in disenrollment from the course.

TYPES OF ANSWER SHEETS: If you are a U.S. Navy enlisted member on active duty or a drilling U.S. Naval Reserve enlisted member, you should use the answer sheet attached at the end of this course and follow the instructions in section A below. If you are an enlisted U.S. Naval Reserve member who is not attached to a drilling unit or if you are an officer, a civilian, or a member of the U.S. Army, Air Force, Marine Corps, or Coast Guard, you should use the Automatic Data Processing (ADP) answer sheet included in the course package and follow the instructions in section B.

A. Manually Scored Answer Sheet

If you are a U.S. Navy enlisted member on active duty or attached to a U.S. Naval Reserve drilling unit, your course will be

administered by your local command. You must use the answer sheet designed for manual scoring, NETPMSA form 1430/5, Stock Ordering Number 0502-LP-216-0100. You may use a form supplied by your Educational Services Officer (ESO), or the one in the back of this course booklet. DO NOT USE THIS FORM FOR COURSES ADMINISTERED BY NETPMSA.

Recording information on the Manually Scored Answer Sheet: When you complete the assignment, submit the completed answer sheet to your ESO for grading. Remember, you must submit the answer sheet within a month of the date that you received the course.

Grading: Your ESO will grade the answer sheet and notify you of any incorrect answers. The passing score for the assignment is 3.2. If you receive less than 3.2, the ESO will list the questions you answered incorrectly and give you an answer sheet marked "RESUBMIT." You must redo the assignment and complete the RESUBMIT answer sheet. The maximum score you can receive for the resubmitted assignment is 3.2.

Course Completion: After you have submitted the answer sheet and have earned at least 3.2 on the assignment, your command should give you credit for this course by making the appropriate entry in your service record.

Student Questions: If you have questions concerning the administration of this course, consult your ESO.

B. ADP Answer Sheet

If you are an enlisted U.S. Naval Reserve member who is not attached to a drilling reserve unit or if you are an officer, a civilian, or a member of the U.S. Army, Air Force, Marine Corps, or Coast Guard, use the ADP answer sheet provided in your course package. Use only the original ADP answer sheet provided in your course package; NETPMSA will not accept a reproduction.

Recording Information on the ADP Answer Sheet: Follow the "MARKING INSTRUCTIONS" on the answer sheet. Be sure that blocks 1, 2, and 3 are filled in correctly. This information is necessary for

your course to be properly processed and for you to receive credit for your work.

As you work the course, be sure to mark your answers in the course booklet because your answer sheet will not be returned to you. When you have completed the assignment, transfer your answers from the course booklet to the answer sheet.

Mailing the Completed ADP Answer Sheet: Upon completing the assignment, mail the completed answer sheet to:

COMMANDING OFFICER
NETPMSA CODE 074
6490 SAUFLEY FIELD RO
PENSACOLA FL 32559-5000

Use an envelope to mail your answer sheet. You must provide your own envelope or request one from your ESO. Remember, you must submit the answer sheet to NETPMSA within a month of the time you receive the course.

NOTE: DO NOT USE THE COURSE COMMENTS PAGE AS AN ENVELOPE FOR RETURNING THE ANSWER SHEET OR OTHER COURSE MATERIALS.

Grading: NETPMSA will grade the answer sheet and notify you by letter concerning your grade for the assignment and your incorrect answers. The passing score for the assignment is 3.2. If you receive less than 3.2, you must rework the assignment. NETPMSA will enclose a new ADP answer sheet in the letter notifying you of the questions you answered incorrectly. You will be required to redo the assignment and resubmit the new answer sheet. The maximum score you can receive for the resubmitted assignment is 3.2.

Course Completion: When you complete the assignment, fill out the "Course Completion" form in the back of the course and enclose it with your answer sheet. NETPMSA will issue you a letter certifying that you satisfactorily completed the course. You should make sure that credit for the course is recorded in your service record. YOU MAY RETAIN THE TEXT.

NOTE: YOUR OFFICIAL COURSE COMPLETION DATE WILL BE THE DATE YOUR ANSWER SHEET IS PROCESSED THROUGH THE NETPMSA ADP SYSTEM--

NOT THE DATE YOU DEPOSIT IT IN THE MAIL. This is especially important if you are taking the course for Naval Reserve retirement credit. You must mail your answer sheet at least 60 days before your anniversary date. This will provide you with enough time for delays in the mail or for reworking the assignment. DO NOT MAIL YOUR ANSWER SHEET TO THE NAVAL RESERVE PERSONNEL COMMAND (NRPC).

Student Questions: Refer questions concerning this course to NETPMSA by mail (use the address on page ii) or by telephone: DSN 922-1366 or commercial (904) 452-1366.

NAVAL RESERVE RETIREMENT CREDIT

If you are a member of the Naval Reserve, you will receive retirement points if you are authorized to receive them under current directives governing retirement of Naval Reserve personnel. For the purpose of

Naval Reserve retirement, this edition of the course is evaluated at 2 points. These points will be credited to you upon your satisfactory completion of the course.

COURSE OBJECTIVES

When you have completed this course, you should be able to: **Explain** basically how the human eye adapts to low-light conditions. **Identify** and **state the use(s)** of the primary electro-optical devices now in use in the U.S. Navy. **Identify** the batteries used in electro-optical devices and **state** their characteristics. **List** the primary uses of lasers. **Explain** the basic operation of a laser. **Define and explain** *specular* reflection and *diffuse* reflection. **Identify** the five classes of lasers and list the basic characteristic of lasers assigned to each class. **Identify** and **state the use of** the primary tactical laser devices currently used in the Navy.

Naval courses may include several types of questions—multiple-choice, true-false, matching, etc. The questions are not grouped by type but by subject matter. They are presented in the same general sequence as the textbook material upon which they are based. This presentation is designed to preserve continuity of thought, permitting step-by-step development of ideas. Not all courses use all of the types of questions available. The student can readily identify the type of each question, and the action required, by inspection of the samples given below.

MULTIPLE-CHOICE QUESTIONS

Each question contains several alternatives, one of which provides the best answer to the question. Select the best alternative, and blacken the appropriate box on the answer sheet.

SAMPLE

- s-1. Who was the first person appointed Secretary of Defense under the National Security Act of 1947?
- 1. George Marshall
 - 2. James Forrestal
 - 3. Chester Nimitz
 - 4. William Halsey

Indicate in this way on the answer sheet:

| | | | | | |
|-----|--------------------------|-------------------------------------|--------------------------|--------------------------|-------|
| | 1 | 2 | 3 | 4 | |
| | T | F | | | |
| s-1 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _ _ _ |

TRUE-FALSE QUESTIONS

Mark each statement true or false as indicated below. If any part of the statement is false the statement is to be considered false. Make the decision, and blacken the appropriate box on the answer sheet.

SAMPLE

- s-2. All naval officers are authorized to correspond officially with any systems command of the Department of the Navy without their respective commanding officer's endorsement.
- 1. True
 - 2. False

Indicate in this way on the answer sheet:

| | | | | | |
|-----|--------------------------|-------------------------------------|--------------------------|--------------------------|-------|
| | 1 | 2 | 3 | 4 | |
| | T | F | | | |
| s-2 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _ _ _ |

MATCHING QUESTIONS

Each set of questions consists of two columns, each listing words, phrases or sentences. The task is to select the item in column B which is the best match for the item in column A that is being considered. Items in column B may be used once, more than once, or not at all. Specific instructions are given with each set of questions. Select the numbers identifying the answers and blacken the appropriate boxes on the answer sheet.

SAMPLE

In questions s-3 through s-6, match the name of the shipboard officer in column A by selecting from column B the name of the department in which the officer functions. Some responses may be used once, more than once, or not at all.

A. OFFICER

B. DEPARTMENT

Indicate in this way on the answer sheet:

- | | |
|-------------------------------|---------------------------|
| s-3. Damage Control Assistant | 1. Operations Department |
| s-4. CIC Officer | 2. Engineering Department |
| s-5. Disbursing Officer | 3. Supply Department |
| s-6. Communications Officer | |

| | | | | | |
|-----|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------|
| | 1 | 2 | 3 | 4 | |
| | T | F | | | |
| s-3 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _ _ _ |
| s-4 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _ _ _ |
| s-5 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | _ _ _ |
| s-6 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _ _ _ |

ASSIGNMENT 1

Textbook Assignment: *Electronics Technician Volume 9 - Electro-Optics*, NAVEDTRA 12419, chapter 1 (all) and 2 (all).

- 1-1. What are the primary components of the human eye that control day and night vision?
1. Rods and cones
 2. Iris and pupil
 3. Retina and optic nerve
 4. Retina and rods
- 1-2. What component(s) of the eye is/are primarily responsible for color vision?
1. The retina
 2. The fovea
 3. The cones
 4. The rods
- 1-3. The average field of view for the human eye is about (a) how many degrees vertical by (b) how many degrees horizontal?
1. (a) 80 (b) 170
 2. (a) 60 (b) 180
 3. (a) 60 (b) 170
 4. (a) 80 (b) 160
- 1-4. In the process of the eye adaptation to dark, what substance, if any, do the rods secrete to adjust?
1. Iodopsin
 2. Rhodopsin
 3. Tears
 4. None
- 1-5. The early military efforts to remove the cover of darkness included the use of which of the following devices?
1. Torches
 2. Rockets
 3. Search lights
 4. All of the above
- 1-6. When observed through the sniper scope, sighted objects appear in varying shades of what color?
1. Blue
 2. Red
 3. Green
 4. Yellow
- 1-7. The above color was chosen for its ability to (a) stimulate what eye component(s) without (b) shutting down what eye component(s)?
1. (a) Iris (b) pupil
 2. (a) Cones (b) rods
 3. (a) Rods (b) cones
 4. (a) Retina (b) fovea
- 1-8. All electro-optical devices use some source of power to produce an image of an object through which of the following processes?
1. Illumination
 2. Amplification
 3. Thermal imaging
 4. All of the above
- 1-9. What is the central point of contact for all electro-optical equipment used in the Navy?
1. Space and Naval Warfare Systems Command, Washington, D.C.
 2. Naval Sea Systems Command, Washington D.C.
 3. Naval Surface Warfare Center, Crane, Indiana
 4. Naval Electronics Systems Command, San Diego, Calif.

- 1-10. What type of batteries provides the longest service life at temperatures above 15 degrees Fahrenheit?
1. Nickel-cadmium
 2. Lithium
 3. Alkaline
 4. Mercury
- 1-11. Which of the following range/purpose combinations pertain(s) to the AN/PAS-6 Metascope?
1. 12 inches/signaling
 2. 1 mile/signaling
 3. 1 foot/map reading
 4. Both 2 and 3 above
- 1-12. For what purposes, other than identification of long-range objects, is the MK37 NVS on the ship's signal bridge used?
1. Navigation and signaling
 2. Fire control and signaling
 3. Navigation and fire control
 4. Both 2 and 3 above
- 1-13. What is the AN/TVS-5 NVS mainly used for?
1. Aimed fire of weapons
 2. Navigation
 3. Infrared detection
 4. Map reading
- 1-14. Which of the following NVS units can be safely submersed to a depth of 50 meters?
1. Aquila
 2. KN200
 3. M921
 4. AN/PVS-4
- 1-15. Which of the following NV units enables the user to pilot rotary wing aircraft or to drive high-speed ground vehicles?
1. AN/PVS-5C
 2. AN/AVS-6
 3. CATSEYE
 4. KN200
- 1-16. In which of the following sights is the intensified image superimposed on the "real world" image?
1. AN/AVS-6 NVG
 2. AN/PAS-6 NVS
 3. AN/PVS-7B NVG
 4. CATSEYE NVG
- 1-17. Which type(s) of maintenance does an ET usually perform on night vision equipment?
1. Corrective maintenance
 2. Preventive maintenance
 3. Depot level repair
 4. All of the above
- 1-18. What type of batteries is being removed from service due to ecological problems?
1. Mercury
 2. Nickel-cadmium
 3. Alkaline
 4. Lithium
- 1-19. What type of batteries requires down time for recharging?
1. Mercury
 2. Nickel-cadmium
 3. Alkaline
 4. Lithium
- 1-20. What type of batteries has the shortest service life?
1. Mercury
 2. Nickel-cadmium
 3. Alkaline
 4. Lithium
- 1-21. Service use of lithium batteries must be approved by whom?
1. NAVOSH
 2. Naval Surface Warfare Center
 3. Navy Lithium Safety Review Board
 4. Both 2 and 3

- 1-22. How much does the Nite-Eye pocket scope weigh?
1. 10 ounces
 2. 15 ounces
 3. 2.5 pounds
 4. 4 pounds
- 1-23. What is the basis for the improved night observation and aimed fire of weapons provided by crew-served and individual-served sights?
1. Available light from the night sky
 2. Greater magnification
 3. Special mounting
 4. Attached illumination devices
- 1-24. Instructions for donning the AN/PVS-5C NVG are permanently mounted on the side of the unit.
1. True
 2. False
- 1-25. The eyes of some animals that hunt at night and sleep in the daytime have retinas composed almost entirely of cones.
1. True
 2. False
- 1-26. Which of the following military applications is not met by lasers used in the Navy today?
1. Training aids
 2. Communications
 3. Target destruction
 4. Landing systems
- 1-27. Lasers operate on which of the following principles?
1. Stimulated emission
 2. Spontaneous decay
 3. Stimulated decay
 4. Random direction
- 1-28. In what state do electrons in a lasing material reside?
1. Steady
 2. Excited
 3. Unstable
 4. Both 2 and 3 above
- 1-29. During lasing, a burst of light will be transmitted along which of the following paths?
1. Through the optical axis
 2. Through the 100% reflecting mirror
 3. Through the optical cavity
 4. Through the 99% reflecting mirror
- 1-30. Which of the following statements is/are true regarding differences in light from a conventional source and light from a laser?
1. The intensity of light from a conventional source decreases rapidly with distance
 2. The beam intensity of a laser remains almost the same as at the source
 3. A laser requires much lower power
 4. All of the above
- 1-31. Which of the following surfaces will not significantly change the divergence of the striking laser beam?
1. Curved specular
 2. Curved diffuse
 3. Flat specular
 4. Flat diffuse
- 1-32. For which of the following surfaces is the amount of divergence determined by the size of the beam?
1. Curved specular
 2. Curved diffuse
 3. Flat specular
 4. Flat diffuse

- 1-33. Which of the following surface(s) will reflect the striking laser beam in all directions?
1. Curved specular
 2. Curved diffuse
 3. Flat diffuse
 4. Both 2 and 3 above
- 1-34. What is the classification of a laser system that requires no controls?
1. Class 1
 2. Class 2
 3. Class 3
 4. Class 4
- 1-35. What is the classification of a laser that must NOT be viewed with optically aided devices?
1. Class 1
 2. Class 2
 3. Class 2A
 4. Class 3A
- 1-36. What is the classification of a laser that emits visible CW with optical radiation levels slightly above HPE?
1. Class 1
 2. Class 2
 3. Class 3B
 4. Class 4
- 1-37. The administrative controls of which class of lasers requires that an appropriate warning sign be placed outside the entrance of the work space?
1. Class 1
 2. Class 2
 3. Class 3A
 4. Class 3B
- 1-38. For which of the following laser classifications is the exposing of non-protected skin or material and viewing of a diffuse reflection considered hazardous?
1. Class 2
 2. Class 3A
 3. Class 3B
 4. Class 4
- 1-39. Which class of laser, if any, would not be hazardous when viewed directly?
1. Class 1
 2. Class 2
 3. Class 3A
 4. None
- 1-40. Laser equipment enhances tactical ability by aiding which of the following functions?
1. Target designation
 2. Aimed firing
 3. Target ranging
 4. All of the above
- 1-41. Which of the following are NOT categories of laser equipment?
1. Markers/designators
 2. Aiming/destruction devices
 3. Pointers/aiming devices
 4. Rangefinders
- 1-42. Which of the following lasers is used to obtain a close estimate of range to a target or to designate a target for laser guided munitions and can directly accept a Night Vision Sight?
1. LTM 86
 2. SOFLAM
 3. TD 100A
 4. AIM-1DLR
- 1-43. The LTM 86 is classified as what type of laser?
1. Class 4 laser
 2. Class 3B laser
 3. Marker/designator
 4. Rangefinder

- 1-44. The TD 100A is categorized as what type of device?
1. Class 4 laser
 2. Class 3B laser
 3. Marker/designator
 4. Pointer/aiming device
- 1-45. Which of the following is a requirement for using the infrared mode of the TD 100A laser?
1. Must be within a range of 50 yards
 2. Must use an extra power device
 3. Must use night vision equipment
 4. Must use safety eye wear with an OD of 1 at a wavelength of 670 nano-meters
- 1-46. Which of the following laser devices has an adjustable intensity beam?
1. LTM 86
 2. SOFLAM
 3. TD 100A
 4. AIM-1DLR
- 1-47. Which of the following laser devices would be used to obtain a close estimate of range to a target under starlit or moonlit conditions?
1. AN/KAS-1
 2. M931
 3. AN/PVS-X
 4. AIM-1DLR
- 1-48. What process is used to convert infrared energy to visible light?
1. Thermal imaging
 2. Heat emission
 3. Passive detection
 4. Active detection
- 1-49. What laser device is used by the Navy for stand-off detection of nerve agents?
1. AIM-1DLR
 2. M931
 3. AN/KAS-1
 4. AN/PVS-X
- 1-50. The AN/KAS-1 CWDD can be used for which of the following functions?
1. Chemical warfare advance warning
 2. Navigation
 3. Search and rescue
 4. All of the above

COURSE COMPLETION/DISENROLLMENT FORM
(Refer to instructions in front of course)

PLEASE PRINT CLEARLY

| | |
|--|-------|
| Electronics Technician, Volume 9, Electro-Optics | 82419 |
|--|-------|

NONRESIDENT TRAINING COURSE (NRTC)

NAVEDTRA NUMBER

| | |
|--|--|
| | |
|--|--|

NAME, RANK, RATE, CIVILIAN

SSN

IF YOUR COURSE WAS ADMINISTERED BY NETPMSA, YOU MUST SUBMIT THIS FORM TO THE ADDRESS BELOW. IF YOUR COURSE WAS ADMINISTERED BY AN ACTIVE DUTY COMMAND OR NAVAL RESERVE CENTER, DO NOT SUBMIT THIS FORM TO NETPMSA.

☐

COURSE COMPLETION (Date _____)

YOU SHOULD RETAIN THE TRAINING MANUAL AND THE ASSIGNMENT BOOKLET IF THEY ARE NOT CLASSIFIED. If CLASSIFIED, submit the material to your command for proper disposition of CLASSIFIED material. A letter of satisfactory completion will be issued to you after your last assignment is received and processed. This form should be included when you send in the last assignment. If the training manual and NRTC courses are designated with distribution statements B, C, D, E, F, or X, and you decide to dispose of the material, you must destroy the material to prevent disclosure of contents or reconstruction of the document.

☐

DISENROLLMENT (Date _____)
(Did not complete the course)

In the event of disenrollment, submit this form to the address below with any unused ADP answer sheets. You need not return any other course material. If the course material is CLASSIFIED, you must submit the material to your command for proper disposition of CLASSIFIED material. If the training manual and NRTC courses are designated with distribution statements B, C, D, E, F, or X, and you decide to dispose of the material, you must destroy the material to prevent disclosure of contents or reconstruction of the document.

☐

OTHER REASON (Specify) :

PRIVACY ACT STATEMENT

Under authority of Title 5, USC 301, information regarding your military status is requested to assist in processing your co-merits and prepare a reply. This information will not be divulged, without written authorization, to anyone other than those within DOD for official use in determining performance.

| |
|--|
| COMMANDING OFFICER NETPMSA CODE 074 6490 SAUFLEY FIELD RD PENSACOLA FL 32559-5000 |
|--|

STUDENT COMMENT SHEET

THIS FORM MAY BE USED TO SUGGEST IMPROVEMENTS, REPORT COURSE
ERRORS, OR TO REQUEST HELP IF YOU HAVE DIFFICULTY COMPLETING
THE COURSE.

Date _____

FROM:

SSN _____

NAME (Last, first, M.I.)
RANK, RATE, CIVILIAN

STREET ADDRESS, APT #

ZIP CODE _____

CITY, STATE

To: COMMANDING OFFICER
NETPMSA CODE 0314
6490 SAUFLEY FIELD Rd
PENSACOLA FL 32509-5237

Subj: ELECTRONIC TECHNICIAN, VOLUME 9, ELECTRO-OPTICS, NAVEDTRA 82419

1. The following comments are hereby submitted:

PRIVACY ACT STATEMENT

Under authority of Title 5, USC 301, information regarding your military status is requested to assist in processing your comments and prepare a reply. This information will not be divulged, without written authorization, to anyone other than those within DOD for official use in determining performance.

.....(Fold along dotted line and staple or tape).....

.....(Fold along dotted line and staple or tape).....

DEPARTMENT OF THE NAVY

COMMANDING OFFICER
NETPMSA CODE 0314
6490 SAUFLEY FIELD RD
PENSACOLA FL 32509-5237

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

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DESIGNATOR _____ ASSIGNMENT NO. _____

☐ USN ☐ USNR ☐ ACTIVE ☐ INACTIVE OTHER (Specify) _____ DATE MAILED _____

SCORE

| 1 T | 2 F | 3 | 4 | | 1 T | 2 F | 3 | 4 | | 1 T | 2 F | 3 | 4 | | | | |
|--------|--------------------------|--------------------------|--------------------------|--------------------------|--------|--------|--------------------------|--------------------------|--------------------------|--------------------------|--------|----|--------------------------|--------------------------|--------------------------|--------------------------|-------|
| 1 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 26 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 51 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| 2 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 27 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 52 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| 3 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 28 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 53 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| 4 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 29 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 54 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| 5 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 30 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 55 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| 6 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 31 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 56 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| 7 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 32 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ | 57 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
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